

Notes:  
Baseplate: Nickel plated copper;  
electrically isolated  
Pins: Nickel plated copper

|   | Dim. Inches |       | Millimeters |       | Notes      |
|---|-------------|-------|-------------|-------|------------|
|   | Min.        | Max.  | Min.        | Max.  |            |
| A | 1.995       | 2.005 | 50.67       | 50.93 |            |
| B | 0.300       | 0.325 | 7.62        | 8.26  |            |
| C | 0.495       | 0.505 | 12.57       | 12.83 |            |
| D | 0.182       | 0.192 | 4.62        | 4.88  | Dia.       |
| E | 0.990       | 1.010 | 25.15       | 25.65 |            |
| F | 2.390       | 2.410 | 60.71       | 61.21 |            |
| G | 1.500       | 1.525 | 38.10       | 38.70 |            |
| H | 0.120       | 0.130 | 3.05        | 3.30  |            |
| J | ---         | 0.400 | ---         | 10.16 |            |
| K | 0.240       | 0.260 | 6.10        | 6.60  | to Lead CL |
| L | 0.490       | 0.510 | 12.45       | 12.95 |            |
| M | 0.330       | 0.350 | 8.38        | 6.90  |            |
| N | 0.175       | 0.195 | 4.45        | 4.95  | Dia.       |
| P | 0.035       | 0.045 | 0.89        | 1.14  |            |
| Q | 0.445       | 0.455 | 11.30       | 11.56 |            |
| R | 0.890       | 0.910 | 22.61       | 23.11 |            |

T0-249

| Microsemi<br>Catalog Number | Working Peak<br>Reverse Voltage | Repetitive Peak<br>Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| FST16035*                   | 35V                             | 35V                                |
| FST16040*                   | 40V                             | 40V                                |
| FST16045*                   | 45V                             | 45V                                |
| FST16050*                   | 50V                             | 50V                                |

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring for Reverse Protection
- VRRM — 35 to 50 Volts
- High Surge Capacity
- Reverse Energy Tested

### Electrical Characteristics

|   |                             |   |
|---|-----------------------------|---|
| Average forward current per pkg             | I <sub>F(AV)</sub> 160 Amps | T <sub>C</sub> = 115°C, Square wave, R <sub>θJC</sub> = 0.5°C/W |
| Average forward current per leg             | I <sub>F(AV)</sub> 80 Amps  | T <sub>C</sub> = 115°C, Square wave, R <sub>θJC</sub> = 1.0°C/W |
| Maximum surge current per leg               | I <sub>FSM</sub> 1200 Amps  | 8.3 ms, half sine T <sub>J</sub> = 175°C                        |
| Max repetitive peak reverse current per leg | I <sub>R(OV)</sub> 2 Amps   | f = 1 KHz, 25°C, 1 μsec Square wave                             |
| Max peak forward voltage per leg            | V <sub>FM</sub> .58 Volts   | I <sub>FM</sub> = 80A: T <sub>J</sub> = 175°C*                  |
| Max peak forward voltage per leg            | V <sub>FM</sub> .74 Volts   | I <sub>FM</sub> = 80A: T <sub>J</sub> = 25°C*                   |
| Max peak reverse current per leg            | I <sub>RM</sub> 30 mA       | V <sub>RRM</sub> , T <sub>J</sub> = 125°C*                      |
| Max peak reverse current per leg            | I <sub>RM</sub> 2 mA        | V <sub>RRM</sub> , T <sub>J</sub> = 25°C                        |
| Typical junction capacitance per leg        | C <sub>J</sub> 2300 pF      | V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C                    |

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

|                                      |                  |                               |
|--------------------------------------|------------------|-------------------------------|
| Storage temp range                   | T <sub>STG</sub> | -55°C to 175°C                |
| Operating junction temp range        | T <sub>J</sub>   | -55°C to 175°C                |
| Maximum thermal resistance per leg   | R <sub>θJC</sub> | 1.0°C/W Junction to case      |
| Maximum thermal resistance per pkg.  | R <sub>θJC</sub> | 0.5°C/W Junction to case      |
| Typical thermal resistance (greased) | R <sub>θCS</sub> | 0.1°C/W Case to sink          |
| Mounting torque                      |                  | 15 — 20 inch pounds           |
| Weight                               |                  | 2.5 ounces (71 grams) typical |

# FST16035 — FST16050

Figure 1  
Typical Forward Characteristics — Per Leg

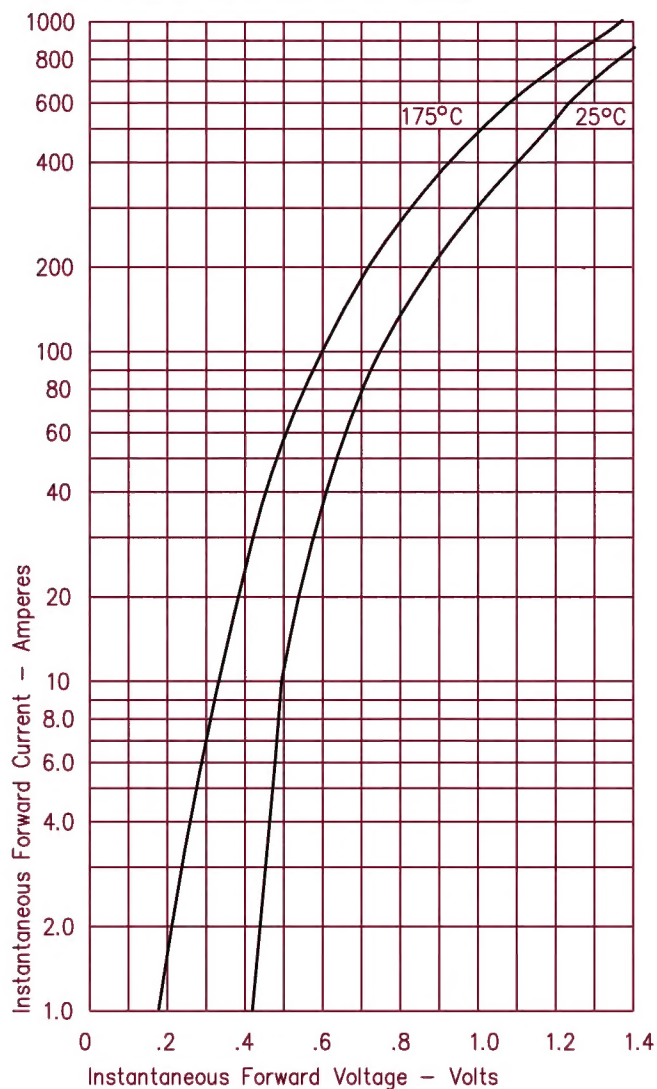


Figure 3  
Typical Junction Capacitance — Per Leg

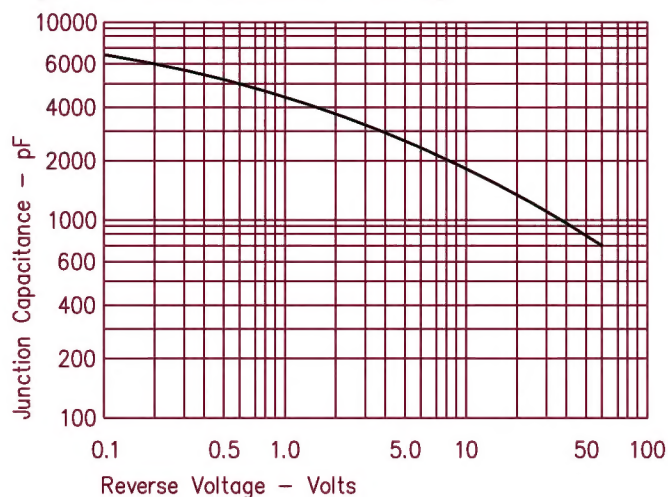


Figure 4  
Forward Current Derating — Per Leg

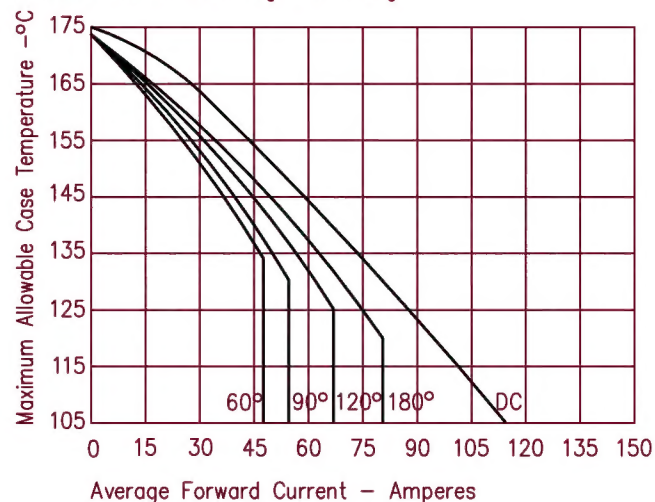


Figure 2  
Typical Reverse Characteristics — Per Leg

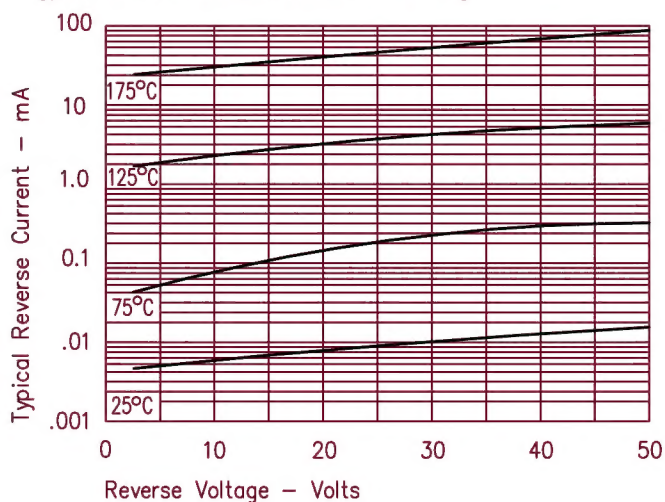


Figure 5  
Maximum Forward Power Dissipation — Per Leg

